

Avrapportering av projektet:

”Utvärdering av SPIN”

Under 2004 utfördes en enkätundersökning av användbarheten av den nordiska produktregisterdatabasen SPIN (”Substances in Preparations In Nordic Countries”)

Undersökningen har följt den upplagda planen både i tid innehåll och budget.

Bifogat finns resultatet och rekommendationer vilka har sammanställt efter mötet i den Nordiska Produktregistergruppen (NPG) i Oslo i maj 2004. Vidare finns bifogat konsultens slutrapport samt NPG’s uppdragsbeskrivning till densamma.

NPG har fungerat som referensgrupp för arbetet. I gruppen har följande personer ingått: Jan Kraft, Eeva Nurmi, Nina Lampinen, Stellan Fischer, Margareta Östman, Sigurbjörg Gísladóttir, Víðir Kristjánsson, Lona Olsen, Poul Erik Andersen och Geir Jørgensen.

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Utvärdering av databasen SPIN

Bakgrund

SPIN ("Substances in Preparations In Nordic Countries") är en databas som innehåller hanteringsinformation om kemiska produkter som tillverkas/ exporteras/marknadsförs i Danmark, Finland, Norge och Sverige. Uppbyggnaden och underhållet finansieras av Nordiska Rådets kemikaliegrupp. De olika ländernas produktregister förser årligen databasen med icke konfidentiell information.

Målgruppen för databasen är myndigheter, företag och ideella organisationer som behöver information om kemikaliehantering. Databasen har sedan december 2002 funnits tillgänglig externt, dels i CD-ROM-format och dels på Internet (webbadress: <http://www.spin2000.net/spin.html>).

Projektgruppen för SPIN's uppbyggnad och underhåll beslutade 2003 att efter att SPIN varit i drift under ett års utvärdera dess användbarhet. Syftet var att bedöma användarnas reaktioner och få in synpunkter som ska kunna ligga till underlag för eventuella revideringar av SPIN.

Det beslutades att uppdraget skulle utföras av en konsult. Arbetssättet skulle vara i form av en enkät som dels skickades ut till kända användare och dels en elektronisk enkät som nåddes via SPIN's hemsida. Det norska konsultföretaget NetlifeResearch lämnade in det mest fördelaktiga anbudet och fick därför uppdraget (uppdragsbeskrivningen, se bilaga 1).

Projektet utfördes planenligt under våren 2004 och avrapporterades på det ordinarie NPG-mötet 25 Maj 2004 i Oslo. Slutrapporten med resultaten från undersökningen finns bifoga (bilaga 2).

Resultat

Trots att ett relativt stort antal användare kunde registreras som användare var svarsfrekvensen låg (cirka 4%).

Svarsresultatet kom nästan uteslutande från användare av internetversionen. Då CD-versionen är såpass lik internetversionen görs antagandet att inkomna synpunkter gäller även CD-versionen.

Användarna var överlag nöjda med innehållet i databasen. Att den innehöll unik data som inte kan erhållas någon annanstans lyftes fram som en viktig fördel.

Bland befintliga funktioner som man önskade förbättringar på lyftes sökfunktionen och den kemiska identifieringar fram. Bland mindre viktiga områden kan nämnas designen. När det gäller designens betydelse bör man dock tänka på att de flesta som har svarat troligen är storanvändare. För nybörjare kan man dock förutse att en förbättrad designen torde öka sannolikheten att man efter ett första försök återkommer.

Även om egenskapen "download time/response time" låg på ett medelvärde i kryssrutefrågan så framkom det i fritextfrågorna att detta var ett problem för många. Om detta berodde på att man var uppkopplad med långsamma modem framgår inte. Långsamhet kan ha flera orsaker:

- 1) Långsam processning i servern.
- 2) Långsam processning i programvaran:
 - a. Stor mängd beräkningar/funktioner ska göras
 - b. Programmering är inte optimalt utformad
- 3) Att användaren använder modem med låg överföringshastighet

Mängden data kommer att öka med åren vilket kan medföra ökande väntetider. Å andra sidan kan man förvänta sig att överföringshastigheter kommer att öka. Vi vet dock inte om det är överföringshastigheten var orsaken till erhållna kommentarer.

Hjälpfunktionen fick ett relativt bra betyg. Även konsulten tyckte att den var mycket bra. Han tillade dock att användare av datorprogram sällan använder hjälpfunktioner. Användaren vill försöka förstå programmet intuitivt. Att ta fram hjälpfunktionen anses ofta som ett personligt misslyckande. Man bör alltså försöka utveckla databasen så att det blir mera intuitivt.

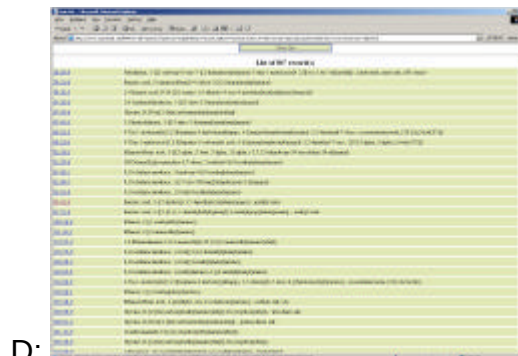
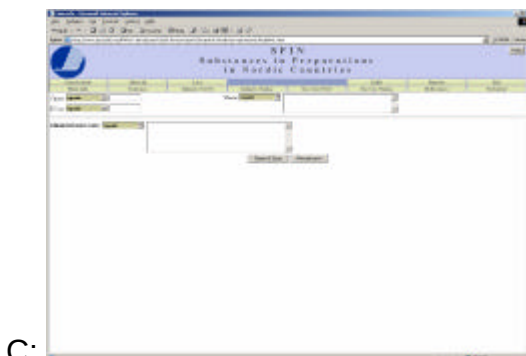
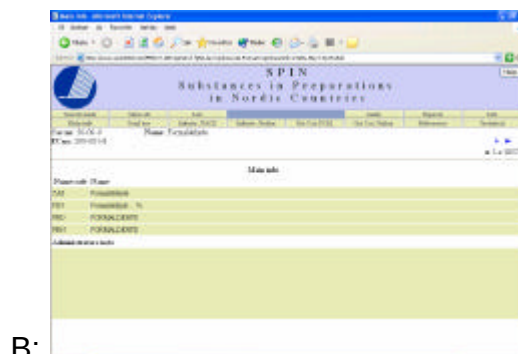
Konsulten hade även gjort en egen översiktligt användbarhetsanalys av SPIN på internet. Man fann då att tillgängligheten av SPIN inte var optimal. Dels finns det ett antal andra databaser på internet som har samma namn, och dels finns det inte inlagt några nyckelord på hemsidan på SPIN. Sammantaget gör detta det svårt att hitta fram till SPIN om man inte vet om den rätta adressen.

Rekommendationer

Utifrån undersökningen kan följande rekommendationer på förändringar göras (angivna i fallande prioritetsordning):

- 1) **Ändra på den övergripande designen på i första hand hemsidan (A i figuren nedan), ämnessidan (B i figuren nedan) och ämnessöksidan (C i figuren nedan).**

Den bör lämpligen utföras av en webbdesignkonsult.



- 2) **Göra sökfunktionen mera intuitiv för användaren i enlighet med rekommendationer gjorda av NetLifeResearch.**

- a. Flytta om diverse redan befintliga knappar och fält.
- b. Radera några onödiga färgmarkeringar och fält.
- c. Lyfta fram "navigatorn" (se sid. 33 i bilaga 2) tydligare så att man bättre ser i vilket sökläge man befinner sig i.
- d. Inskrivningsrutan för namnsökning: Minska höjden till en rad. Om den behöver vara längre kan hela rutan flyttas upp ovanför sökrutan för "Casno". I den positionen finns det sedan möjlighet att dra ut inskrivningsrutan ända till högermarginalen.
- e. Överväg möjligheten att "List" (bild D i figuren ovan) automatiskt dyker upp som resultat av en sökning på ämnesnivå när fler än ett ämne erhålls som svar (istället för att första ämnet i listan dyker upp, som i bild B i figuren ovan). Detta skulle tydliggöra var man är i en sökning.

Dessa uppgifter kan kräver förhoppningsvis mindre designkunnande. Dock krävs kunskap av själva programvaran som SPIN är skriven i. Kan eventuellt göras av ägaren till den server som SPIN ligger på (InfoShare).

3) Underlätta navigeringen på SPIN:

Inaktivera knappar när de inte är relevanta (beroende på vilken sökfunktion man har valt innan). Detta torde kräva ändringar i den bakomliggande programmeringen.

Kan möjligen göras av ägaren till den server som SPIN ligger på (InfoShare).

4) Länkningar till hemsidor

En rad förslag till hemsidor som skulle kunna vara till hjälp för användaren av SPIN har angivits. Här bör ett mindre antal väljas ut och länkas till SPIN. Man bör då tänka på att länkarna kräver återkommande kontroll att de fortfarande finns kvar på sina adresser. Kvarstår att bestämma var på hemsidan som länkarna bör ligga.

På samma sida som man gör namnsökning bör hemsidor väljas där man kan finna synonymnamn. Bland länkar som bör övervägas kan bl.a. nämnas:

- European Chemicals Bureau
 - o <http://ecb.jrc.it/esis/>
- KEMI, Sverige
 - o <http://www.kemi.se/Kemi/Kategorier/Databaser/Amnesregistret/default.cfm>
- ChemFinder
 - o <http://chemfinder.cambridgesoft.com/>
- ChemIDplus
 - o <http://chem.sis.nlm.nih.gov/chemidplus/>
- IGS-public, Tyskland
 - o <http://www.lua.nrw.de/igs/igsframe.htm>
- The Chemical Database, University of Akron
 - o <http://ull.chemistry.uakron.edu/erd/>
- EPA Substance Registry System
 - o <http://www.epa.gov/srs/index.htm>

Arbetsinsatsen är troligen begränsad och kan göras i samarbete med NPG och InfoShare.

Allmänna synpunkter

Konsultens rekommendationer i sektion 5 i bilaga 2 (från sidan 32) användas som utgångspunkt för ändringar i design och funktion.

Designändringarna ska av kostnadsskäl så långt det är möjligt göras i den befintliga programvaran (FileMaker Pro). Skulle annan programlösning väljas måste hänsyn tas till att en även CD-versionen ska kunna byggas utifrån den. Skulle detta leda till en betydande kostnadsökning behövs ett beslut tas om hur viktigt det är att CD-versionen finns kvar.

I uppdraget ska inte ingå att åtgärda befintliga fel i SPIN's funktioner. Det ska ingå i redan befintligt underhållsavtal med InfoShare. Detta avtal kan dock behöva omförhandlas om andra konsulter än InfoShare gör ändringar i SPIN (för att kunna reglera hur eventuella fel som uppstår på grund av detta). I underhållsavtalet bör det även ingå att lämpliga nyckelord finns inlagda i hemsidans html-kod.

InfoShare borde tillfrågas om orsaken till att somliga uppfattar att SPIN arbetar långsamt. Svaret kan ligga till grund för eventuella behov att uppgradera mjukvara eller hårdvara. Man bör även överväga om byte av webbhotell kan vara en lösning.

Då SPIN nu innehåller minst tre års data kan det användas för att uppskatta tidstrender. Någon applikation för detta finns dock inte framtagen i nuvarande version av SPIN. Möjligheten till detta borde snarast utredas i samarbete med InfoShare. Går detta inte att utföras i den programvara som SPIN är byggd i idag är detta en viktig begränsning som bör vägas in i beslutet om en första förbättring av SPIN's utförande. Denna behovsinventering av SPIN-förbättringar bör därför samordnas med att undersöka möjligheten att utveckla funktioner för grafisk presentationer av tidstrender.

Bilaga 1:

Uppdragsbeskrivning – ”Utvärdering av SPIN”

Den nordiska produktregistergruppen (NPG) kommer att fungera som styrgrupp för projektet. Gruppen har ordinarie möten fyra gånger per år, cirkulerande mellan de olika nordiska produktregistren (normalt februari, maj, september och november).

Tidsplan

- | | |
|--|------------------|
| - Distribuera anbudsförfrågan | <30 augusti 2003 |
| - Anbudssvar senast | 31 oktober 2003 |
| - Initiera konsultarbetet | 2 januari 2004 |
| - Utskick av frågeformulär | januari 2004 |
| - 1:a lägesrapport till första SPIN-mötet 2004 | februari 2004 |
| - Insamling/sammanställning av svar | mars-april 2004 |
| - Slutrapport innan 2:a NPG-mötet 2004 | 30 april 2004 |
| - Föredra konsultrapporten på 2:a NPG-mötet | maj 2004 |

Målgrupper för utvärdering

I första hand ska enkäten riktas till Nordiska aktörer som behöver användningsdata i syfte att minska risker med kemikalier. Till dessa kan nämnas myndigheter, företag, institut, konsulter och ideella organisationer (miljö eller konsumentorienterade). Genom internationalisering av kemikalie-bedömningar är motsvarande organisationer inom EU och OECD också möjliga målgrupper.

Både användare av den internetbaserade versionen och CD-ROM-versionen inkluderas i denna undersökning. Då Internetversionen saknar vissa funktioner (tex. utökad sökfunktion) som finns i CD-ROM-versionen kan det i vissa hänseenden bli nödvändigt att differentiera detta i frågor och resultatredovisning.

Utförande

I konsultuppdraget ska ingå att via kontakter med användare utvärdera användbarheten av SPIN samt identifiera eventuella behov av förbättringar.

Arbetet följer lämpligen följande fem faser:

- Fas 1: Identifiera lämpliga användare
- Fas 2: Utarbeta slutlig strategi för informationsinsamling
- Fas 3: Utskick/insamling
- Fas 4: Sammanställning/analys
- Fas 5: Avrapportering

Fas 1

Identifiera användare av SPIN lämpliga för enkätundersökning. Görs i samarbete mellan NPG-gruppen och konsult, lämpligen via:

- register för CD-mottagare
- myndighetskontakter
- hemsidan för SPIN

Fas 2

Enkäten ska, om inte annat överenskommes, beröra följande områden/frågeställningar:

- Användarvänlighet:
 - o Översikt/struktur
 - o Sökfunktioner
 - o Utskriftsfunktioner
 - o Hjälpfunktioner
 - o Kemisk identifieringsmöjligheter
 - o Design (färg/form m.m.)
- Datainnehåll:
 - o Användbarhet av erhållen information.
 - o Erhölls tidigare okänd information?
 - o Var informationen i SPIN tillräcklig, eller behövs mera?
- Känna till begränsningarna:
 - o Att uppgiftsposter kan ha uteslutits pga sekretesskäl (utan att det syns)
 - o Begränsningar i originalinformationen
 - o Olika databasstrukturer i de olika nordiska källdatabaserna
- Skillnader mellan Internet och CD-versionen – synpunkter.
- Service (t.ex. utskick av CD-skiva efter anmälan på hemsidan).
- Utvecklingsmöjligheter:
 - o Infoga "FAQ"
 - o Nya parameter
 - o Nya sökmöjligheter
 - o Nedladdningsmöjligheter
 - o Synonymer
 - o Ökad upplösning för branscher, funktioner
 - o Standardisering av branschkode
 - o Tidstrender – visa på skärmen
 - o Information om kemikaliehalter
 - o Andra språk
- Behov av länkar till andra databaser (för att finna synonymer, summaformel, klassificering m.m.) t.ex. Kemi's ämneslista (webbadress: <http://www.kemi.se/Kemi/Kategorier/Databaser/Ammesregistret/default.cfm>).
- Felaktigheter funna i hemsidans funktion eller i datainnehållet

Användaren ska efterfrågas om vad de avser att använda informationen till, lämpligen indelas i:

- Myndighetsarbete
- Säkerhetsarbete på företag (inklusive branschorganisationer)
- Ideellt arbete
- Privat användning
- Annat

Fas 3

Distribution av enkät kan göras via Internet och/eller skriftligt.

Fas 4

Resultatsammanställning:

- Beskriva vald metodik
- Tabellsammanställning
- Textanalys
- Tillfrågade användare ska kategoriseras i de olika målgrupper som identifierats ovan. Hopslagning av målgrupper kan bli aktuellt om underlaget annars blir för litet.
- Resultaten ska även differentiera med Internetversionen och CD-ROM-version där det är relevant.

Fas 5

Slutrapporten ska vara skriven på engelska med en sammanfattning på något av de nordiska språken.

Den ska levereras senast 30 april 2004 i form av skriftligt rapport samt som Word-fil till projektledaren. I uppdraget ingår en muntlig avrapportering på ett NPG-möte i maj 2004. Mötet kommer om möjligt att hållas i samma nordiska land som konsulten är verksam i. Skulle trots allt mötet hållas i ett annat land kommer eventuella extra resekostnader för konsulten att ersättas av NPG.



NetLifeResearch

USABILITY SPECIALISTS

Report from the SPIN evaluation

Summary

An online survey is a good way to identify the user groups and to get feedback on the existing web solution.

It is also a great possibility to let the users tell what they like, dislike and even post suggestions for new features and new functionality.

In this particular survey, the amount of data is a bit small. Therefore many of the results must be seen as indications and not statistical facts.

There are indications that experienced users are quite pleased with the existence of the SPIN database, and are impressed with the amount of data present. The fact that this database is Nordic is also very good, and enables the users to compare data between different countries.

Never the same, the use patterns indicate that the frequency of visits to the database on the web is quite low.

However, new users seem to struggle with the front page, the headlines and with the search engine. The lack of usability is probably the foremost problem, but the language and the codes used may be other critical issues that should be looked into.

In order to give KEMI more value from this report, NetLife Research has attached a brief expert review. We have looked into the first steps that new users have to accomplish, in a cognitive walkthrough, and given some comment in a brief expert evaluation. See chapter 5 for our comments.

The purpose of the expert review is to identify possible problems the users may meet in the interaction with the SPIN database. An expert review can't replace a usabilitytest with real users, but may gain important insight in to possible critical issues, that the online survey as a method doesn't cover.

Recommended next step

A typical next step, from a usability point of view, is to use the feedback from this survey and consider to run a usabilitytest (see attachment 2). A usabilitytest will find and identify the showstoppers in the SPIN user interface that users meet. The test is a qualitative test with real users, solving real tasks in a controlled setting.

1 Background

Number of responses

	#
Number of times the survey was shown*	1086
Complete	50
Invalid from the completed	8
Valid responses used in this analysis	42

*This includes both the number of times users where shown the survey on the website and the number of users who received an e-mail

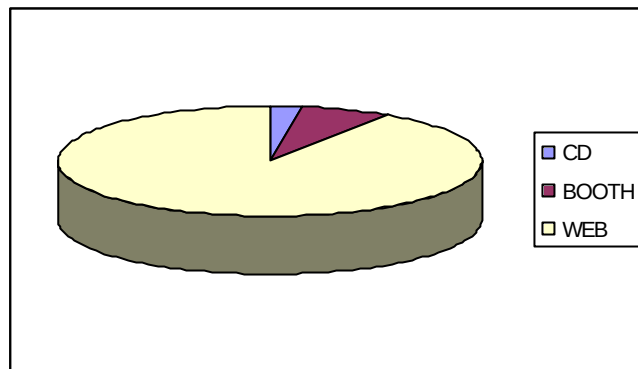
The response rate for this survey is 3,87 %. This is as expected for online surveys.

But included in these numbers, we also have some e-mail respondents. The survey was sent to approximately 85 unique e-mails addresses. From the list we received, about 78 e-mail addresses did not come in return.

We sent 2 reminders for the survey, but nevertheless, the response rate remained quite low. This unfortunately resulted in very few data for comparing the CD-ROM version to the web version.

2 Results from the survey

1. Version - What version of the SPIN-database have you used?

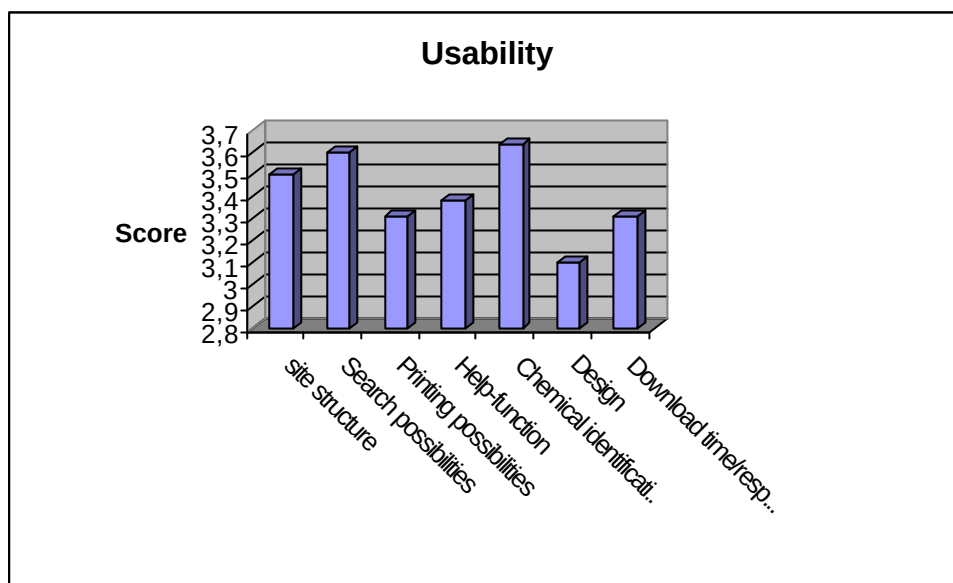


Version used	Number
CD Version	1
WEB Version	38
Used both versions	3

Comments from NetLife Research:

Unfortunately, we didn't reach many of the CD-version users of this database. Out of 78 valid e-mail addresses, only 4 respondents who used the CD version responded to this survey. The only indications on the difference between the WEB version and the CD version are from the open answers (Se chapter 5 below).

2. Usability - How would you rate the usability of the SPIN database concerning the following:



(From 1=poor – 5=good)

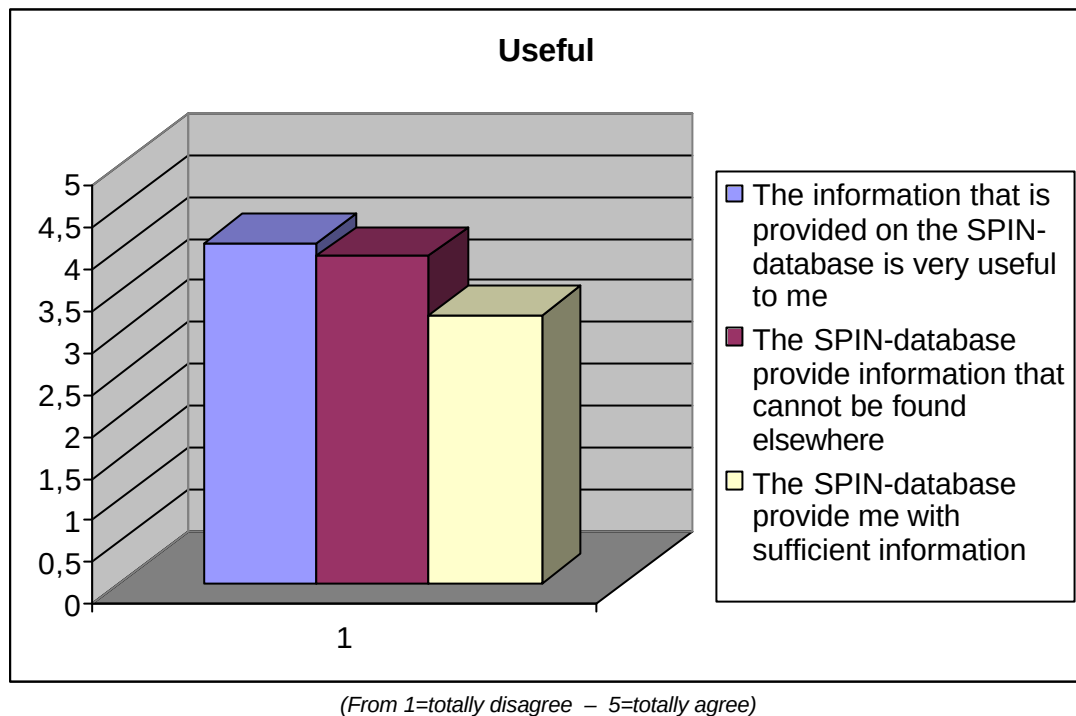
Factor	Average score From 1 to 5
Site structure	3,50
Search possibilities	3,60
Printing possibilities	3,31
Help-functions	3,38
Chemical identification possibilities	3,65
Design	3,10
Download time / response time	3,31

Comments from NetLife Research:

The usability is rated just above average, which is quite normal for surveys. None of the features gets a high score, indicating that the database doesn't quite meet the needs of the users well enough.

The best way to identify usability problems in the SPIN database would be to run a usabilitytest on actual users within the target group. See attachment 2

3. Useful - Please respond to the following questions:

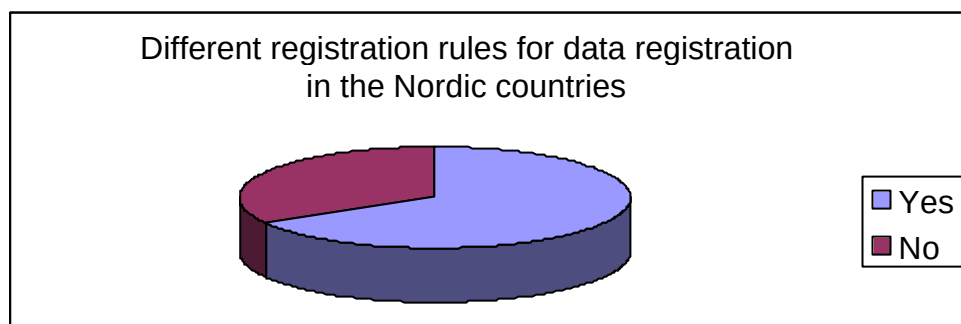
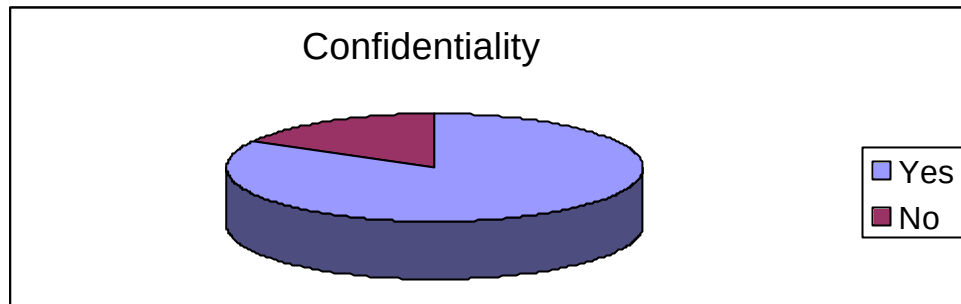


	Average score From 1 to 5
The information that is provided on the SPIN-database is very useful to me	4,05
The SPIN-database provide information that cannot be found elsewhere	3,90
The SPIN-database provide me with sufficient information	3,19

Comments from NetLife Research:

The respondents find the information useful. They also seem to agree that SPIN contains data that cannot be found elsewhere. However, the respondents are not convinced that the database provides them with enough information.

4. Excluded - Are you aware that some data may not have been included because of:



	Yes	No
1. Confidentiality	35	7
2. Different registration rules for data registration in the Nordic countries	28	14

Comments from NetLife Research:

Even though most of the respondents were aware that some data are hidden, 17% didn't know about the confidentiality and 33% didn't know about the different rules for different countries. This information should be made more available so that the users don't have to wonder why the data is not included.

5. Differences - What are your opinions on the differences between the web-version and the CD-version of the SPIN database?

1. *"Advantages of the web-version: it is really easy to print the information, updates are automatically implemented.
Drawbacks of the web-version: some login problems sometimes occurred, search results are slow.
Advantages of the CD-version: search results appear instantly and can be saved.
Drawbacks of the CD-version: the interface is not really intuitive, it is really difficult to print the totality of the information selected."*
2. *"Due to the response time I mostly use the CD-version. But the design etc. is better on the web-version."*
3. *"Normally I use the web version. The CD-version however has the possibility to spare "my list" and make further search. In addition you may use tools like Filemaker Pro to make more advanced searches on the CD-version."*

Comments from NetLife Research:

Most of these answers from open questions in the survey speak for themselves. But as a summary:

The WEB

- Easy to print
- Automatically update
- Better/more intuitive design
- Slow search
- Log in problems

The CD version

- Can use other tools to enhance search possibilities
- Better response time
- Search results appear instantly and can be saved
- Not intuitive interface
- Difficult to print the totality of the information selected

6. Ordering - Please answer the following question: How would you describe the ordering-process of the SPIN CD-ROM?

(NOTE: Only 4 respondents!)

(From 1=easy – 5=difficult)

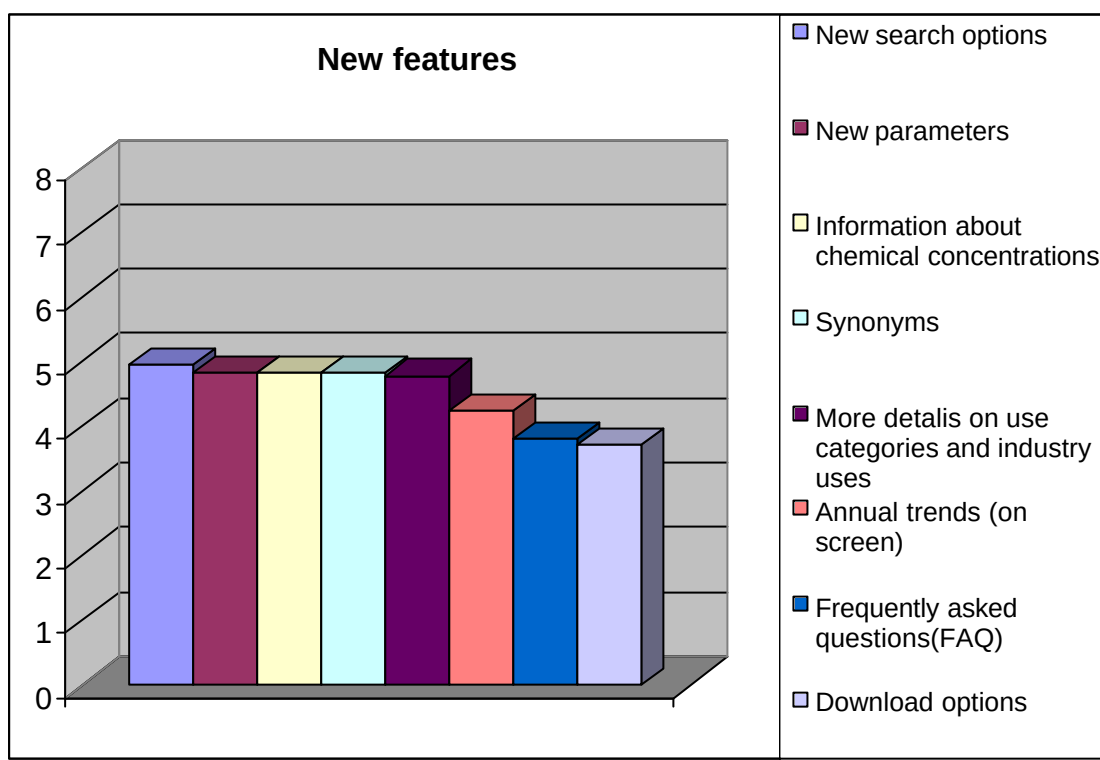
3	Easy
1	Neither easy nor difficult

Comments from NetLife Research:

There seem to be little trouble with the ordering process, but with 4 respondents it is impossible to draw any conclusions.

7. Differently - Can the ordering-process be improved? If yes, how? (No answers)

8. New features - If new features should be implemented in SPIN how would you rank them in importance:



(1 = least important, 8 = most important)

Features	Average
New search options	4,95 (most important)
New parameters	4,83
Synonyms	4,83
Information about chemical concentrations	4,83
More details on use categories and industry uses	4,79
Annual trends (on screen)	4,26
Frequently asked questions (FAQ)	3,81
Download options	3,71 (least important)

Comments from NetLife Research:

The search feature has received a lot of negative comments, and not surprisingly, this is feature that should be worked with as a possible next step (See the expert review in chapter 5).

Note also the need for synonyms, in order to search on common names and not technical names (i.e. CAS numbers).

9. Other databases - What kind of links to other databases are relevant or needed in your work with the SPIN-database? (10 respondents answered)

1. "I find it difficult to use names, I must know the CAS number otherwise the data base don't work for me."
2. "HSDB"
3. "Mineral, oxide, silicate databases, thermo chemistry databases (e.g. FactSage, Outokumpu HSC etc)"
4. "www.kemi.se klassificeringslistan begränsningslistan flödesanalyser PRIO"
5. "Nist.gov
SCIFINDER
CHEMFINDER
EPA"
6. "IUCLID and other resources at ECB, the IRIS information system US-NIH, the ECOTOX db at US-EPA"
7. "www.chemfinder.com"
8. "Links to health and safety data and regulation"
9. "Links to references, ex. Different lists (also the Norwegian observation list and the List of Dangerous Substances). Link to nsdb? More references. "
10. "Safety information"

Comments from NetLife Research:

The language used from the respondents in the open sections of this survey is quite technically, and NPG representatives are probably far more competent than NetLife Research in understanding what they mean 😊.

But it's obvious that there are a lot of different tools that the users use together with SPIN. A good idea would be to get to know the best, and link to these tools from the SPIN web.

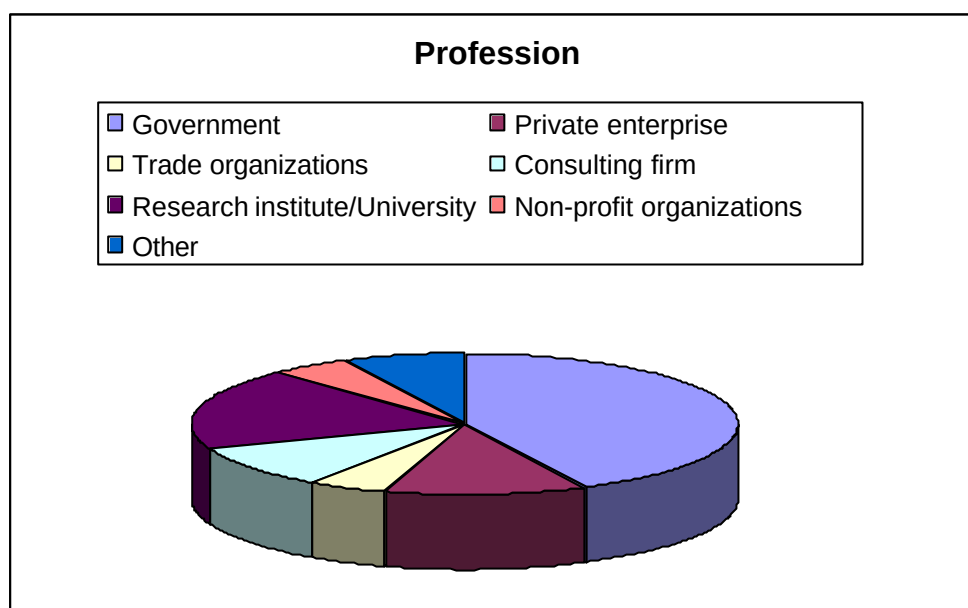
10. Known Errors - If you have identified any errors in the SPIN-database please specify here:

	#	Open answers
Don't know any errors	37	
Errors in data-material (ex. Wrong formula).	2	- Many - Felaktiga sifferuppgifter
Errors in functions (ex. Button that does not work).	3	- Chemical names - It is hard to search on chemical names I can just search on CAS numbers if I want to have an answer - Guide

Comments from NetLife Research:

The five responses are listed above. Answers like "Many" doesn't help us much in identifying the errors. But again the problems due to chemical search appear, and in this case, the lack of ability to use chemical terms in the searches is seen as an error.

11. Profession - What is your profession? Select the most suitable alternative.

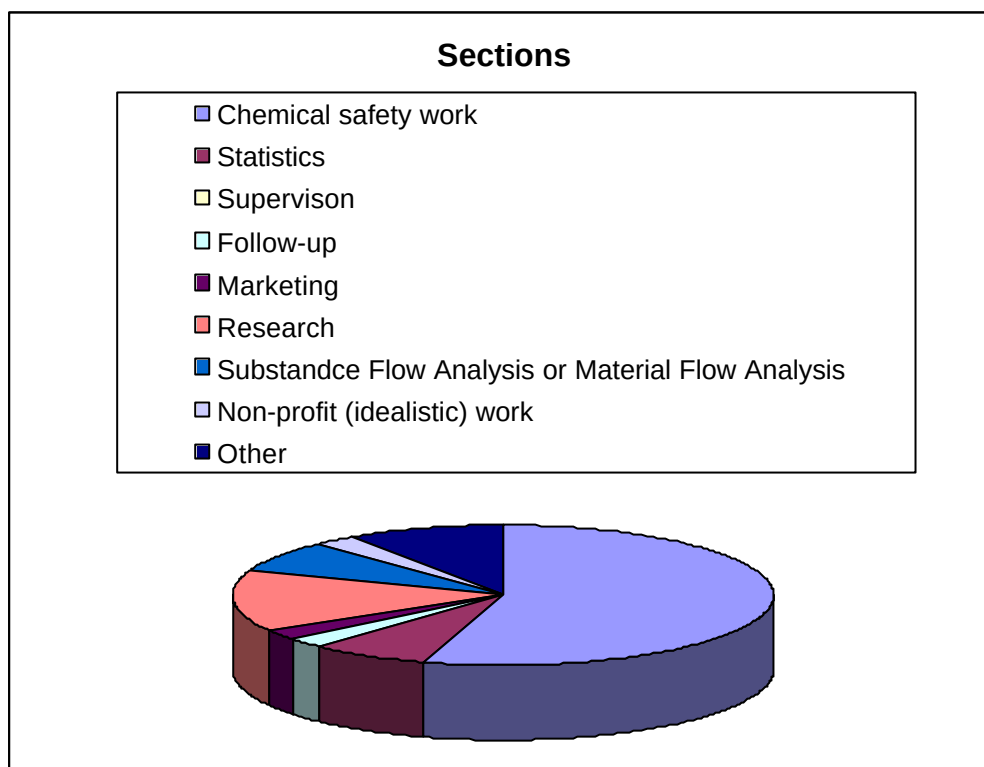


Profession	#
Government	18
Research institute/University	8
Private enterprise	5
Consulting firm	4
Trade organizations	2
Non-profit organizations	2
Other	3
Please specify: - 2 students	
- 1 editor in chief	

Comments from NetLife Research:

Most of the respondents are from governmental institutions. With only 42 responses the variation of the other groups could be just a coincident.

12. Sections - How do you use the information selected from SPIN?

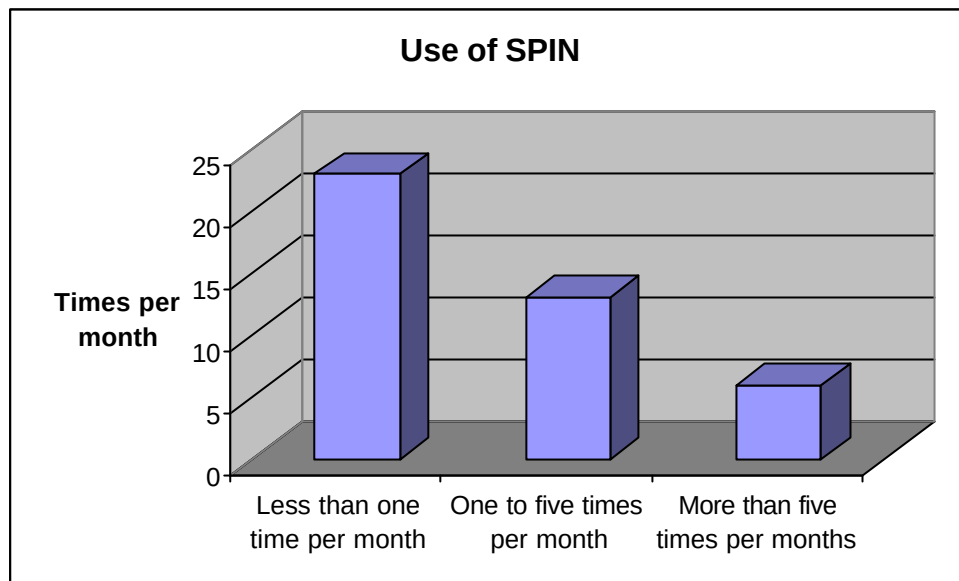


Sections	#
Chemical safety work	23
Research	6
Statistics	3
Substances Flow Analysis or Material Flow Analysis	3
Follow-up	1
Marketing	1
Non-profit (idealistic) work	1
Supervision	0
Other	4
Please specify: - Information	
- Get ideas. I'm a web application developer.	
- OECD ICCA program, National (German) program on old substances	
- N/a	

Comments from NetLife Research:

Most of the respondents work with chemical safety work, and with research.

13. Often - How often do you use the SPIN database?



	#
Less than one time per month	23
One to five times per month	13
More than five times per months	6

Comments from NetLife Research:

Most of the respondents use the SPIN database with quite a low frequency, and less than one time per month.

14. Positive - Please list three things you like about the SPIN database:

Positive about SPIN	#
INFORMATION / CONTENT /DATA	24
NORDIC DATABASE	8
SEARCH	7
EASY TO USE	7
AVAILABLE	4
UNIQUENESS	5
TECHNICAL	3
OTHER	1

(Se attachment 1 for full list)

Most of the users are impressed with the amount of data in the database, and the different data they can get from the database. People seem to be interested in knowing if substances exist in consumer products and in industry use.

Many users think it's positive to have a Nordic database and not just a national database, with the possibilities to compare the data and see total use of the products.

Many of the experienced users seem to like existing solution and find the database easy to navigate. (Indications however, seem to point in the other direction, when the users are new or not that familiar with the database).

The availability of the database is also positive according to several users in this survey.

15. Dislike - Please list three things you dislike about the SPIN database:

Negative about SPIN	#
INFORMATION / CONTENT /DATA	29
TECHNICAL	8
SEARCH	7
DESIGN	4
EASY TO USE	2
OTHER	1

(Se attachment 1 for full list)

A lot of the open answers in this section relate to the lack of information, that it is not enough information on each substance, little safety information etc. Other things like different languages, too much confidentiality, lack of data and references is mentioned.

From the feedback, it seems like the search function and the navigation structure should be made more users friendly. Especially new users find it difficult to use the database. There are also some direct comments on poor usability.

Some find the headlines difficult to tell apart from one another, and they miss more information on each headline.

The loading time and huge amount of data slow down the interaction so much that users get annoyed.

In addition the design doesn't seem to appeal to some of the users in this survey, and has a good potential for improvement.

16. Change - Is there anything you would like to change about the SPIN-database?

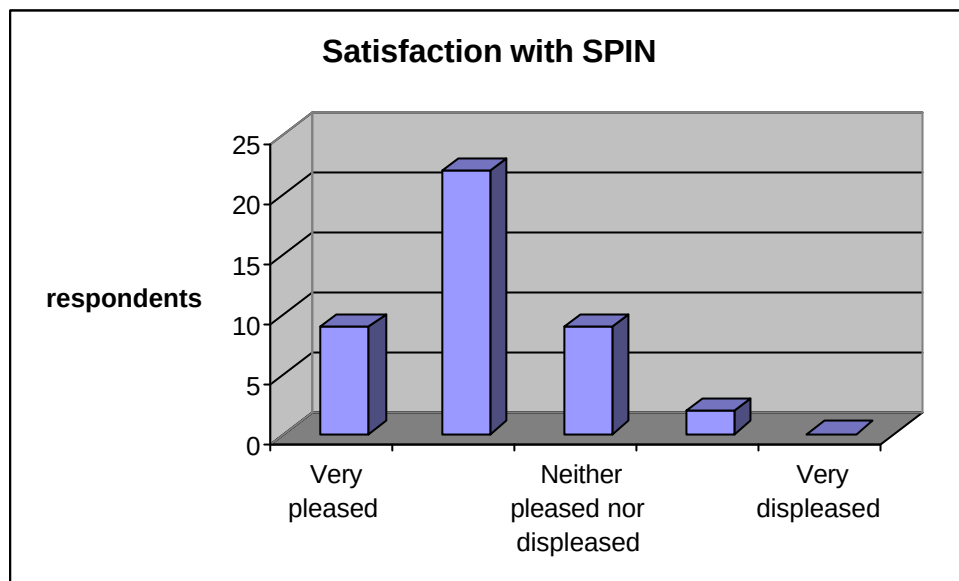
Changes in SPIN	#
INFORMATION / CONTENT /DATA	11
TECHNICAL	8
SEARCH	6
DESIGN	2
OTHER	2

(Se attachment 1 for full list)

If the users could make changes in the SPIN database, they would prioritize the following:

- o More content on each substance
- o Better response time
- o Build a more user friendly search engine
- o Make a more intuitive and appealing design, especially on the front page to make it more intuitive.
- o Make it possible to use local language

17. Pleased - How pleased are you with the SPIN-database? I am...



(From 1 = very pleased – 5 = very displeased)

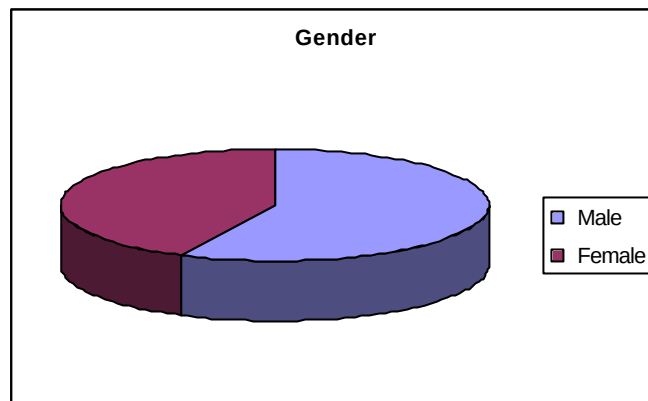
	#
Very pleased	9
Pleased	22
Neither pleased nor displeased	9
Displeased	2
Very displeased	0

Average: 2,10

Comments from NetLife Research:

Most of the respondents are pleased with the database. 9 are very pleased and only 2 are displeased.

18. Gender

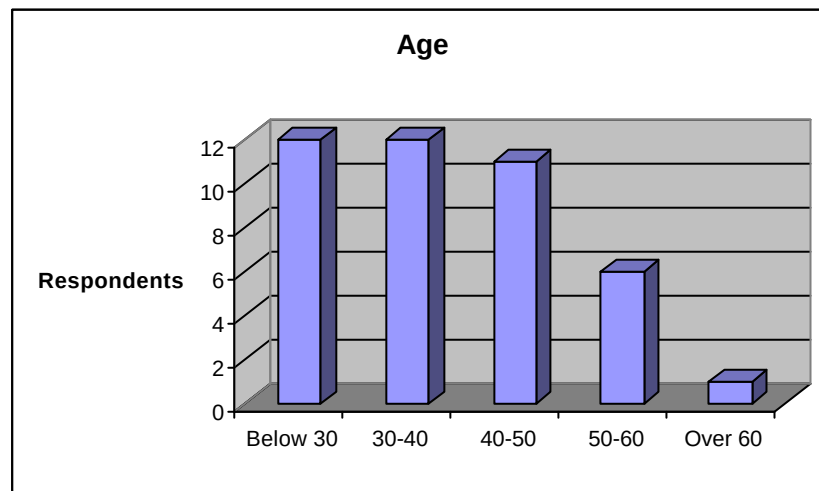


#	
Male	24
Female	18

Comments from NetLife Research:

In this survey 43% were women, and 57% were men.

19. Age

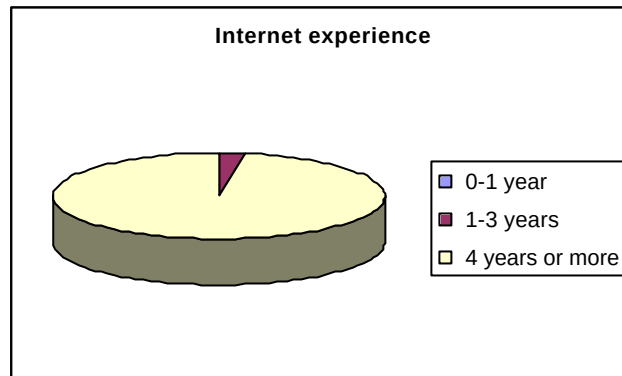


#	
Below 30	12
30-40	12
40-50	11
50-60	6
Over 60	1

Comments from NetLife Research:

There seems to be an even variation in the user groups from below 30, 30-40 and 40-50.

20. Internet Experience

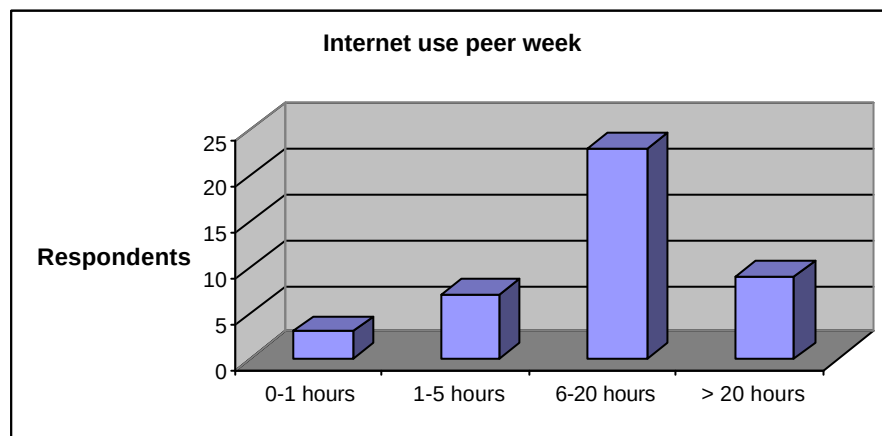


	#
0-1 year	0
1-3 years	1
4 years or more	41

Comments from NetLife Research:

Most of the respondents are quite familiar with the Internet, and almost everyone has been on the Internet more than 4 years.

21. Internet Use



	#
0-1 hours	3
1-5 hours	7
6-20 hours	23
> 20 hours	9

Comments from NetLife Research:

Most of the respondents use the Internet very often, and are qualified as experienced users.

3 Some indications from the data material

These findings are based on analyses of this sample of SPIN –users. It is important to note that these findings are not tested for statistical significance because of the low number of respondents and therefore the low statistical power. They should therefore be seen upon as indications.

Gender

- Men rate the usability of the Help function to 2.42, while women rate the usability of the help function to 2.89 (a difference in score on 0,47 on a usability scale from 1 to 5)
- Women rates the feature “New search options” as priority 1, while men rate this feature as number 4 on their list.
- Men rates the feature “More details on use categories and industry uses” as priority 1, while women rate this feature as number 5 on their list.

How often they use SPIN

- The rating of usability differs a lot compared to the period of time they have used the SPIN database, as expected. The longer time, the better they rate the usability. This is particular the case for the “site structure” and the “help function”.
- The same tendency is seen regarding how useful the SPIN database is to the users. Those who use SPIN often, rates the usefulness very high (1 on a scale from 1 to 5), while those with less experience don't find it that useful, but quite average (2,35 on a scale from 1 to 5)

Age

- People over 50 rates the usability of the “site structure” much higher than the people below 30.
- People over 50 have the feature “new parameters” on a 6th place out of 8, while those younger than 30 have “new parameters” as top priority.
- People over 50 use the database more often than the younger people.

Government

- People working in the government have the feature “More details on use categories and industry uses” as a 1st runner up, while the rest have ranked this feature 5 out of 8.

Internet use

- The group of respondents who use the Internet more than 20 hours a week is most displeased with the download time/response time
- There is a difference between on the usability rating of the site structure, between those who use Internet 0-5 hours a week and those who use it 6-10 hours a week. The difference in the mean is 0.39, but this is not enough to make the result significant.

4 Statistical analyses with SPSS

Some statistical analysis was also done for the main hypotheses. But we will stress that the low number of respondents makes it harder to obtain statistical significance:

- ❖ There is no statistical significant correlation between how the respondents rate the usability of SPIN and age, how long they have used the Internet, and how much they have used the SPIN database.
- ❖ There is a relative large correlation between how often the respondents use the SPIN database and how pleased they are with the SPIN database. ($r = 0.35$, $p < .05$)
- ❖ There is also a relative large correlation between how satisfied the respondents were with the help function and how pleased they all were with the SPIN database. ($r = 0.39$, $p < .05$)
- ❖ There is a quite large correlation between how useful the respondents find the information in the SPIN database and how often they use the SPIN database. ($r = 0.58$, $p < .05$)

5 Brief expert review of the usability of the web version of the SPIN database

A) How to enter the database – too many steps

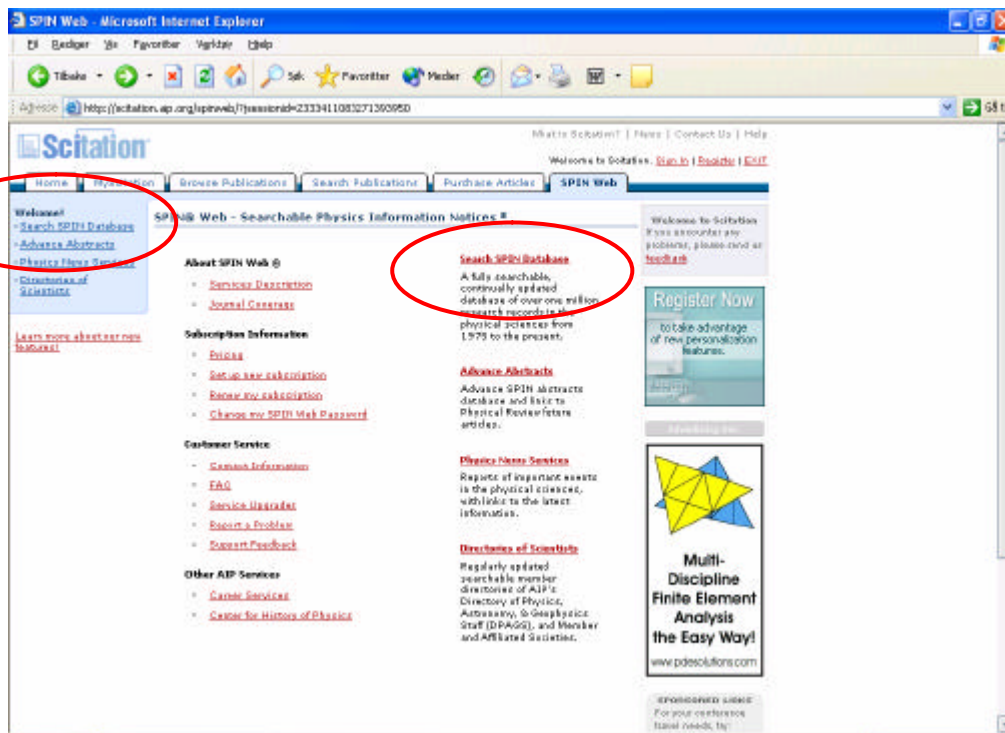
1. Enter the www.kemi.se site
2. ...Then find the database-link In the left menu
3. ...Then see the SPIN database in left menu or scroll down to find a link. The trouble with the last, is that the link is below the fold (i.e. under the visual part of the page)



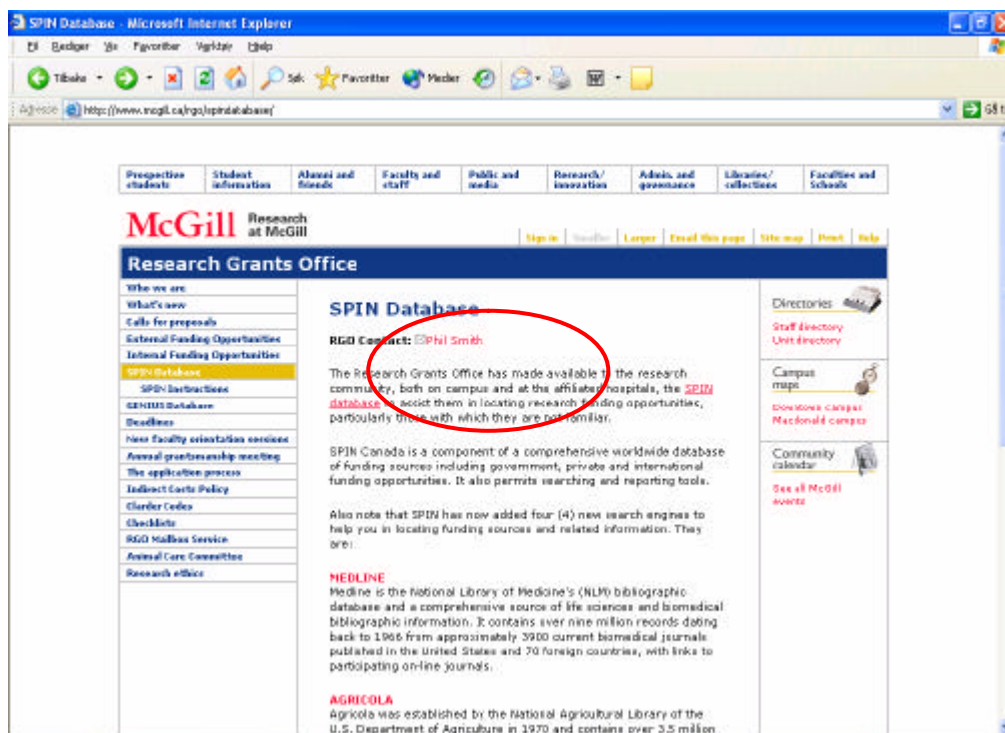
4. Finally the database opens in a new window.

If the intentions are to let people find this database by themselves through the KEMI website, without knowing about it in advance, I believe that SPIN will not be found. The name of the database is not self-explainable, like "begränsningsdatabasen".

B) Other SPIN database exists on the web

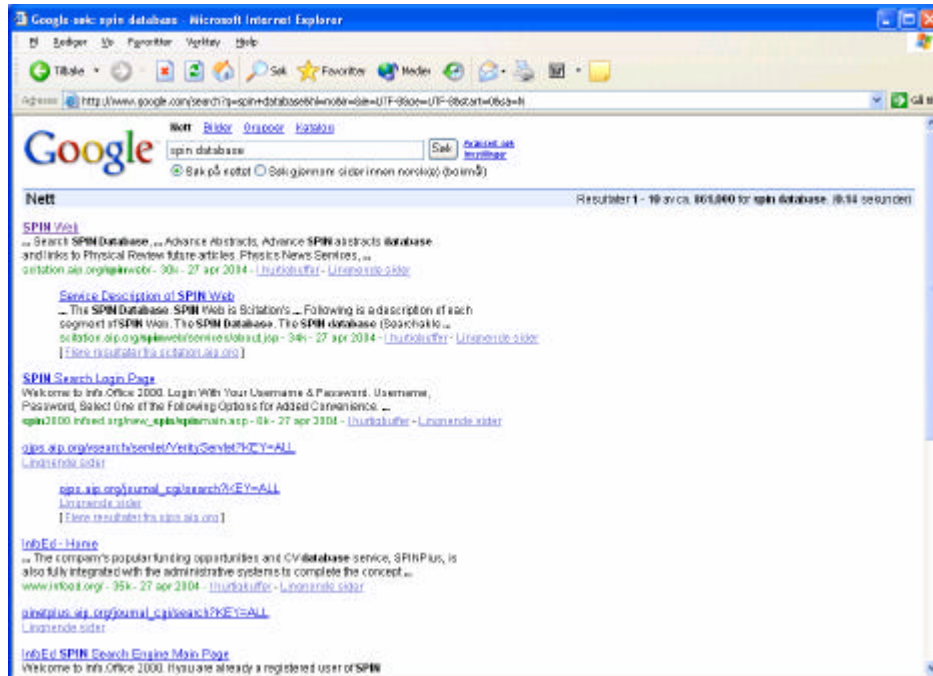


Some of the pages named SPIN

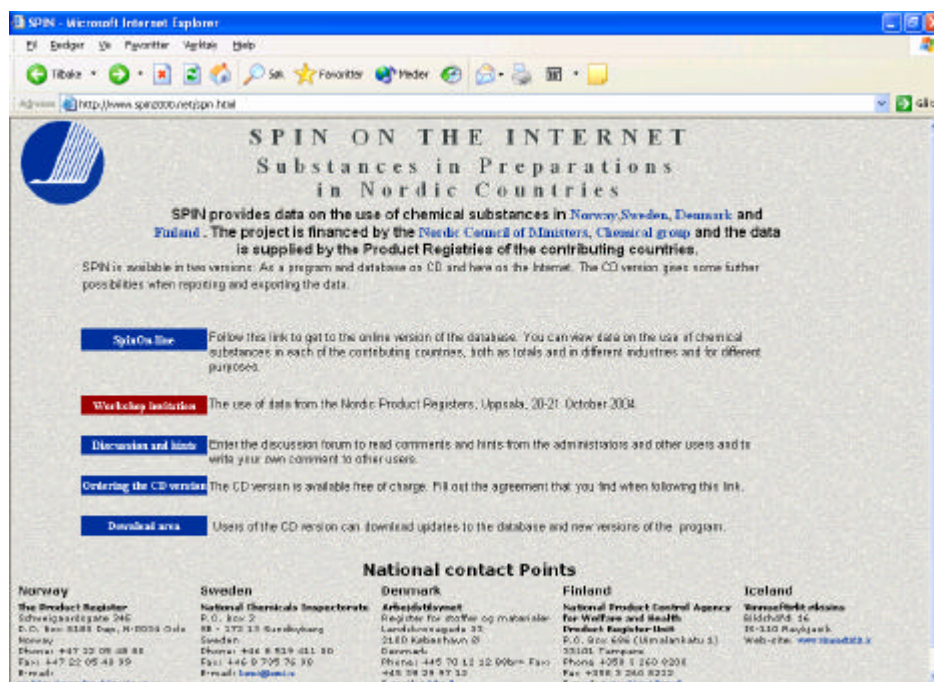


C) No results within reasonable amount of pages searching for “spin database” on google, the largest search engine in the world.

Did not appear on the 5 first pages in google. Did not check further.

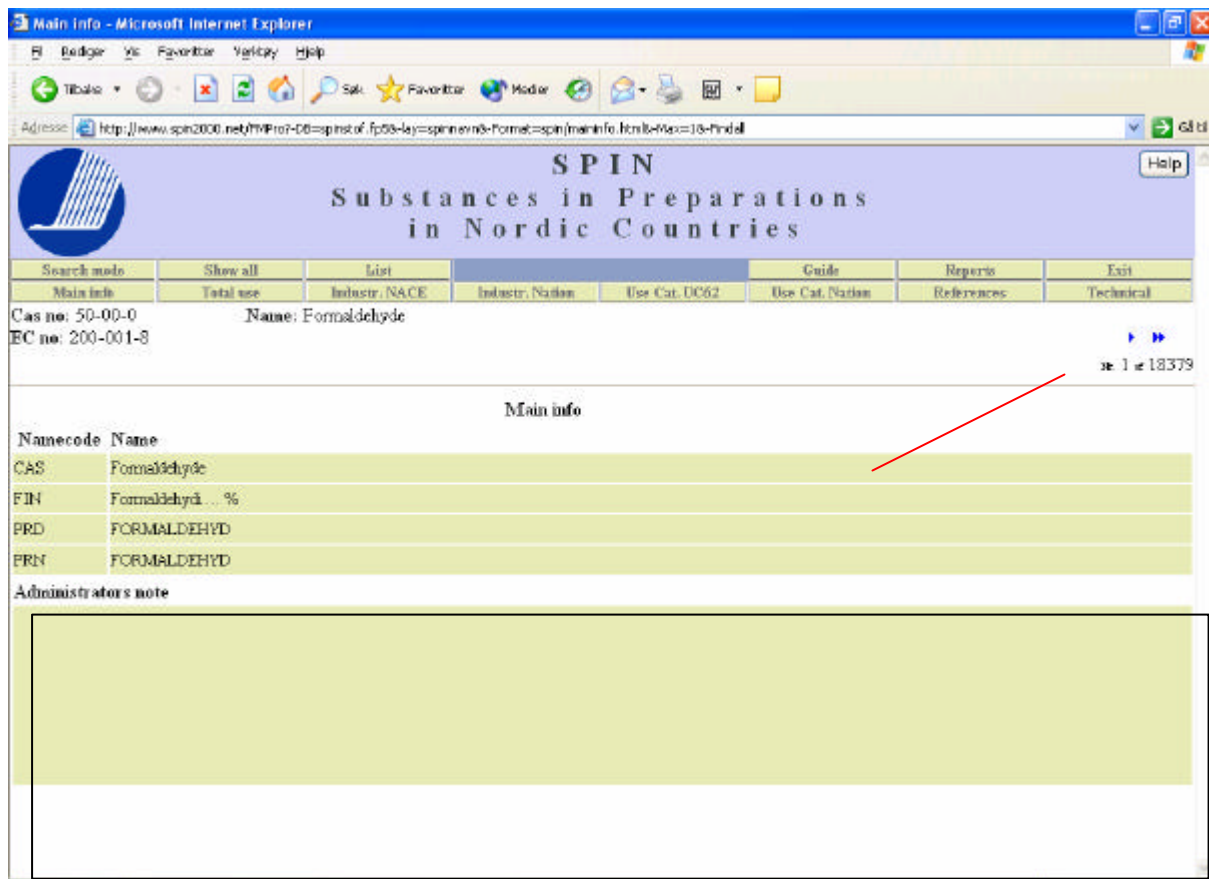


D) The homepage of SPIN



The opening site has a lot of different text sizes, types and colour, which gives a rather chaotic impression. On this site the most visible element is the workshop invitation. This might be the intension, but be aware of the main reason why people come to this site – to use the database. The background is blurry, and gives poor contrast between background and text, which decrease the readability on the page. The design was also given the lowest score among the rating of the sites usability in the survey.

E) The front page of the database



- Where am I in the structure? (Lack of feedback) The menu items should be marked when in use, i.e. with a different colour.
- The top navigation looks like a double tab-structure, but is not. It acts more like links.
- The colour of the text in the navigation menu is grey. This is a dangerous colour to use, because in windows grey is used to signal that buttons are inactive.
- The local navigation within the database should be much more prominent. It is too small (the red arrow)
- Too much space is unused (green area). This space should be used more cleverly. (Instructions, more relevant info, industry use of the chemicals etc.)
- Help button is quite good ☺. This is the way to design buttons.
 - o Good contrast between text and background
 - o 3-d image
 - o Differ from the rest of the design – easy to spot

F) The search page

Main info - Microsoft Internet Explorer

Address: http://www.spin2000.net/HTML/ro7-dc=spin%2fmaininfo.html?lay=spin%2findex.html&view

SPIN
Substances in Preparations
in Nordic Countries

Search mode: Main info | Show all: Total use | List: Industr. NACE | Guide: Use Cat. DC62 | Reports: Use Cat. Nation | Exit: References | Technical

Casno: equals | Name: equals

EC no: equals

Administrators note: equals

Search Spin | Reset form

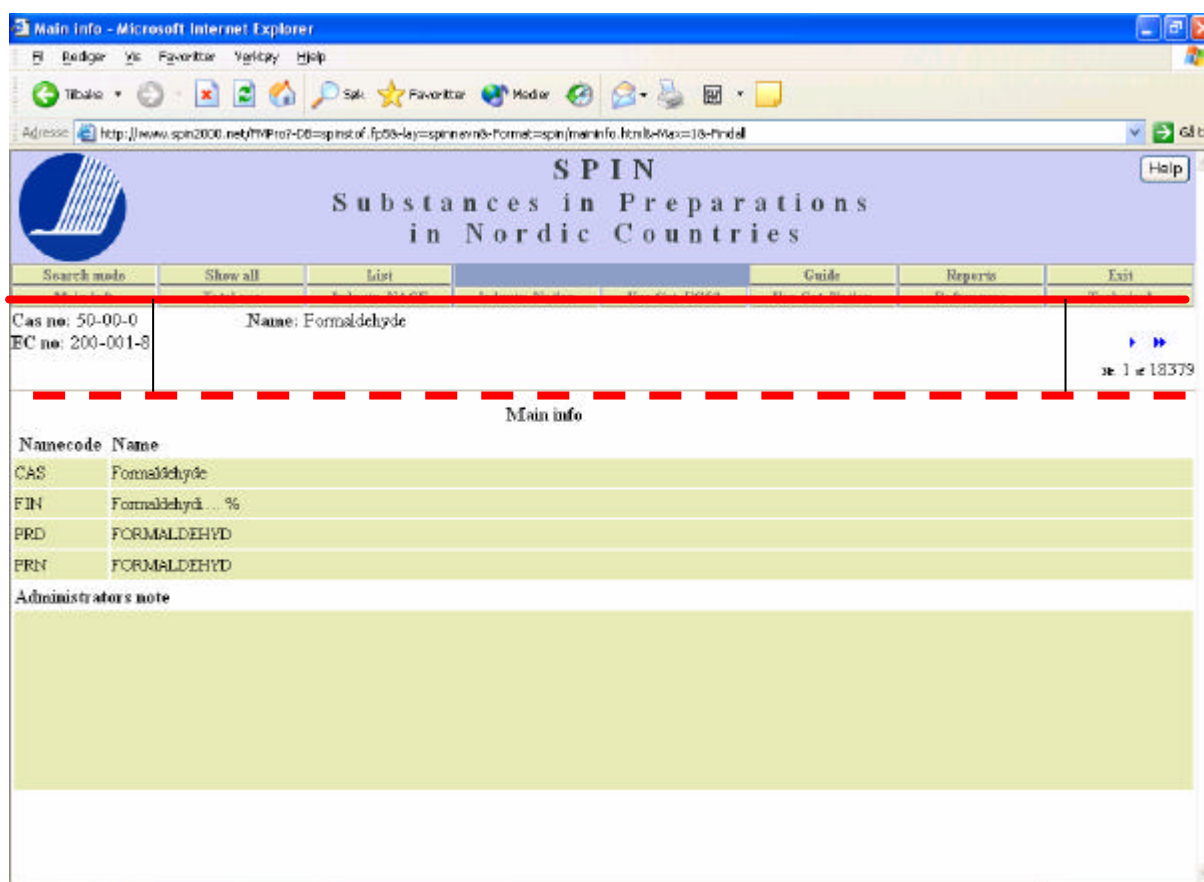
The search page is very confusing.

- Strange information architecture (IA)
- Not intuitive where to start or how the functions are connected to each other
- The search SPIN button should not be under the open area... especially not when the thin green line divide the page. The way it seems to work now is that the search button only corresponds to the Administrators note.
- More information "on the spot" on how the users can navigate and use this search function!

Typical errors that can occur are:

- o The users search for keywords or chemical names in the Administrators note – field. (It is the most prominent open text box, and it has the search button attached to it.
- o People use the "Enter Button" after entering keywords in the upper part of the search page (Casno, EC no and Name)
- o Clicks on the Reset for button, since the conventions for the search button is to be placed at the right (not left as in this case).

G) The top menu



It takes too long time to learn how the menu works and find out how it is linked with the rest of the information.

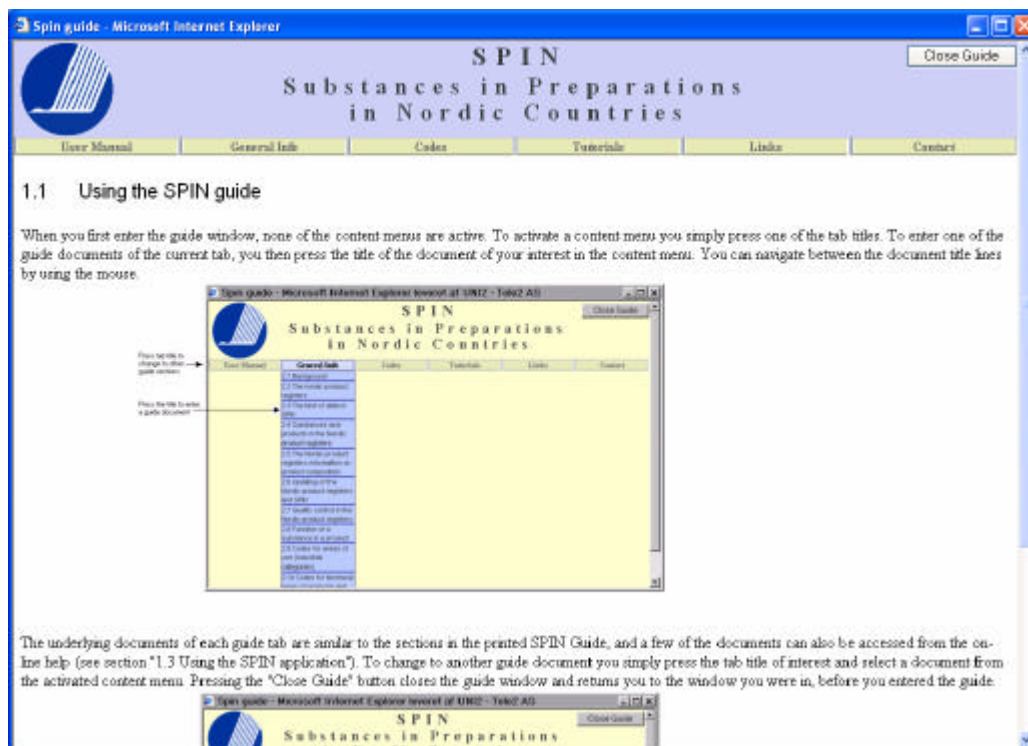
As a quick win the lower part of the top menu and the upper part should be visual separated, in order to better see the difference. One solution could be to move the lower menu into the main frame, to show that these functions are related to the specific chemical substrate.

The "Search mode", "Show all" and "List" is one level above in the hierarchy and are general functions.

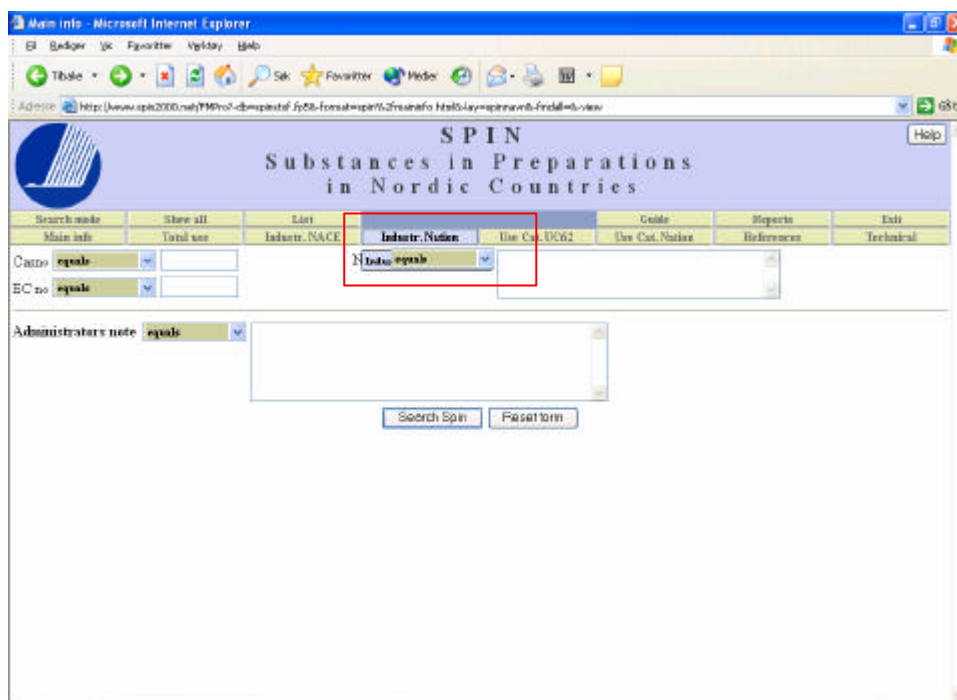
H) The Guide

The Guide (help) to SPIN is a very useful feature. The trouble is that people usually don't like to read them ☹. From usability expert, Steve Krug, we got his 1. Law stating: "People don't read web pages, they scan them" (Ref: Don't make me think, Steve Krug)

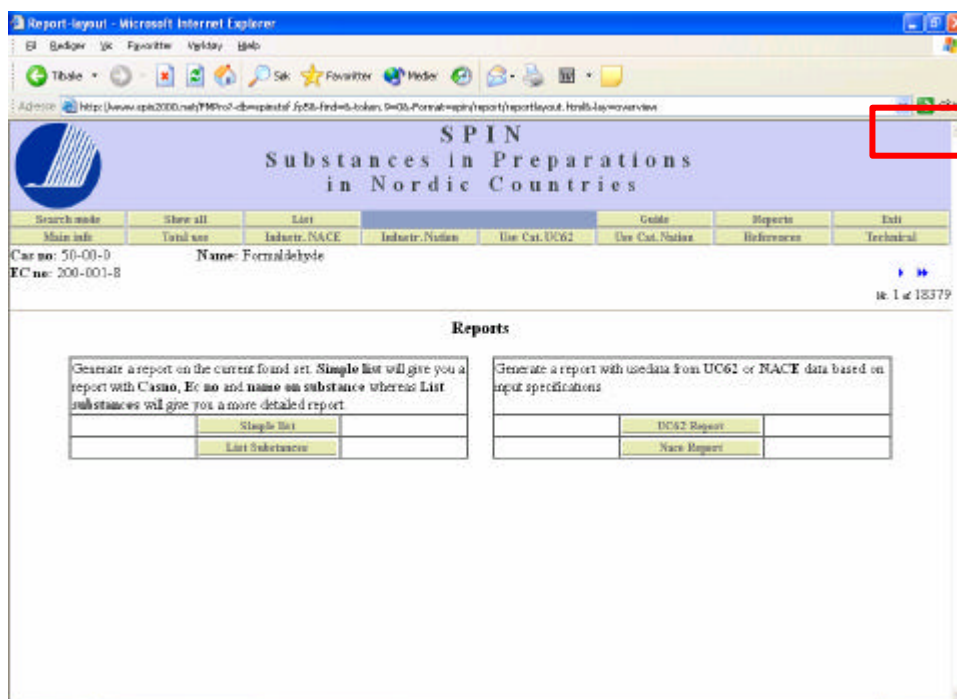
Therefore effort should be made in making the user interface in SPIN more intuitive.



I) Technical issues



The "alt text- message" disappear behind the drop down menu when activated, making it impossible to read.



From the Report page, the link back to "search mode" is wrong, and only refreshes the Reports page. The HELP button is missing on this page

Please feel free to contact us regarding this short expert review. Best Regards from Even Risbakken (even@netlifereasearch.com)

Attachment 1 - Result from the open answers

Positive about SPIN	#
INFORMATION / CONTENT /DATA	24
NORDIC DATABASE	8
SEARCH	7
EASY TO USE	7
AVAILABLE	4
UNIQUENESS	5
TECHNICAL	3
OTHER	1

EASY TO USE

- Ease of use
- Easy
- Userfriendliness
- Easy to find material / move around
- Easy to use
- Easy if use
- Fairly easy to use

AVAILABLE

- Always available
- Easy available
- Easy available
- Publicly available

UNIQUENESS

- Use data available not possible to find in other databases
- Unique information
- That it exist
- Unique!
- That it is possible to find data that you cannot find elsewhere

INFORMATION / CONTENT /DATA

- Quick information of the use of different substances in the country
- Synonyms for chemical substances can be found
- Covers many substances
- The way of substance beneficiation can be found
- Nice tutorial
- Covers all substances with at least a name/CAS-nr
- Information is there!
- Information on branches etc.
- Lot of information!
- Possibility to see the molecular structure
- god til at finde cas-nr og synonymer i
- Gives an indication on whether a chemical is used in consumer products
- The database has got a lot of data
- The possibility to find data on substances in preparations

- The possibility to find data on substances used in different industries
- The information you can get from it...
- Trends in use per year
- Easy access to a large number of substances with use data
- Gives quick overview over groups of substances
- Good tool to find substances with specific function (flame retardant etc), use in product types or work areas
- Contains easily accessible information on important issue
- Access to quantitative data on chemical use
- Valid information (governmental) about use in Nordic countries

SEARCH

- The ordering options for search results
- The search options
- Search by several name for the same chemical substance is good
- Easy to search for the data needed
- Easy to search
- The search options
- Search for only a part of a chemical name

NORDIC DATABASE

- The reunion, in a same database of different national product register
- Possibility to compare information from several countries
- Information from all Nordic product databases in one place
- og den er nordisk
- The information is gathered at one place
- Information from different countries available
- DATA FOR EACH COUNTRY
- Overview -Nordic use & tonnage

TECHNICAL

- Fast
- Accessibility
- Possibility to list chemicals according to their use function

OTHER

- Specify use category

Negative about SPIN	#
INFORMATION / CONTENT /DATA	29
TECHNICAL	8
SEARCH	7
DESIGN	4
EASY TO USE	2
OTHER	1

EASE OF USE

- Not that intuitive at the first glance
- The Structure of the database makes it very difficult to work with, and find what you are looking for

SEARCH

- Difficult to find out all the good search options
- Hard to search (not intuitive)
- The search options are not workable enough
- It is not easy to search in the database
- Difficult to use the search options
- If you do not know the CAS no it is often difficult to find the substance because of limited number of chemical names
- The fact that you have to click on the no-no. to see the name on the substance, when you have a total list of substances used in a specific industry or country

TECHNICAL

- I pressed the button "Show all" when I would like to see all information on my substance I instead receive all substances in the database, this is not logic
- When I make a copy of the data (with ctrl A + Ctrl C) I also receive lots of html elements into my excel sheet. They are difficult to delete
- Long download period
- The amount of data makes the database really slow
- Bad identification of the downstream user
- Often very slow access - may be do to security at my own site
- Difficult (at least to me) to download data and search results
- Low speed of response

INFORMATION / CONTENT / DATA

- The absence of the fraction of active substance in preparations
- The rate of data updates
- The lack of clear compatibility between different national uses classifications
- Much missing data for several substances
- Many substances are missing
- Many substances are not determined definitively
- Too little information about each substance
- Some reports are not interesting for me
- Occasionally a substance I want to know about is not listed
- Varför har man inte SVENSKA namn då man har namn på danska, norska och finska?
- Varför är svenska uppgifter ett år äldre än övriga nordiska uppgifter?
- The references to lists are not comprehensive

- Miss graphs and annual trends
- To many "confidential" data
- Lack of information
- PHYS CHEM DATA MISSING
- Confidentiality!
- Could be some more text regarding that statistical limitations
- Lack of links to other information sources
- You can not see the difference between imported, produced and exported chemicals
- There is no explanation of the headlines (ex industry use)
- There are no easy way to see trends of use
- Need more information about products
- No safety information
- No safety and health data or regulation
- Difficult to determine professional / consumer use
- Not identical categories
- When data that are not complete due to confidentiality, this should be presented clearly to the user
- Lack of information for the specific substances

DESIGN

- Ugly and old-fashioned design with administrators note and such items
- Grafikken
- The web design is lacking
- The design of the web page

OTHER

- Restricted to Nordic Countries

Changes in SPIN	#
INFORMATION / CONTENT / DATA	11
TECHNICAL	8
SEARCH	6
DESIGN	2
OTHER	2

INFORMATION /CONTENT / DATA

- More information about each substance, such as classification (health and environment)
- informationer om human og økotoksikologi
- Ha färskare svensk uppgifter!
- More information on which products
- Newer figures
- Information about exported, imported and produced volumes
- Explanations about the differences in the headlines
- More references to different lists (OSPAR, EU etc, different priority lists...)
- more reports
- More easy reports
- Safety classification

TECHNICAL

- Speed of response
- Improved access speed if possible
- Electronic download function (e.g. as excel files)
- Graphic representation of time series
- Possibility to chose more sorting parameters in advance
- INTEGRATE IT WITH OTHER DATABASES, IN ORDER TO GET A FULL VIEW OF DAT
- More links
- Improve downstream user category/codes

BETTER SEARCH

- More logic search strategy (e.g. larger search button, rename the "Show all" button)
- Search should be made a lot easier. Combinations are hard to search for
- To have the possibility to searched for products name also
- The search options. Fx. make it possible to search directly for product groups like paints or plastic
- It should be possible to see the English name of the substances in the total list of records, when you have made a search, so that you have a better overview
- Better possibilities to search automatically in the SPIN database from different lists

DESIGN

- The interface of the start page. Divide the functionality in logical groups. Make it easier to understand the different ways of searching and view the information
- The design of the web page should be better, so it would be easier to use the search options

OTHER

- Lägg till svenska namn!
- När det är en nordisk databas, varför inte möjlighet att välja nordiska språk, mycket kulle var schablonöversättningar.

Attachment 2 – Usabilitytest

A “typical” usabilitytest includes

Step 1: Workshop

Defining the purpose of the usabilitytest, walkthrough of the interface, making criteria's for recruitment and starting the work on the tasks for the test.

Step 2: Test plan and test script

Based on the workshop and other sources of information we make a test plan with a description (tasks for the test) and criteria's for recruitment.

Step 3: Doing the test

We test on 4-6 persons each day. Relevant persons from the project-team are present as observers.

Step 4: Reporting and using the results

After the test we analyze the logs from the observers, and watches parts of the video material. We then write an illustrated report with a summary of the usability problems detected, a rating of the severity of each problem and suggestions on how the interface could be changed to prevent these problems from occurring again.

We present the results and agree on the changes in a meeting/workshop/videoconference/telephone meeting with relevant persons.

Facts about Usabilitytest

A user interface is tested on real users with realistic tasks to find and correct possible problems for the users. The users “think aloud” during the testing.



Observation room



Test room

- Persons from the target group are given realistic tasks in the User Interface that are being tested. Each person is usually tested for about 1 hour.
- The test situation and the image from the test person monitor are recorded on digital video and analyzed
- Use a “think aloud” protocol. The test persons are instructed to tell what they do and why they do it, while solving the tasks in the User Interface. This helps us getting the most valuable information from the test persons.
- A moderator sits together with the test person and gives he/she the tasks and asks relevant questions during the test.
- Observators sit behind a one-way mirror or in an adjacent room and observe the test persons PC-screen on a monitor/with a projector.

Usability testing...

- Settles disputes with data instead of guesses
- Provides real feedback from actual users
- Is low cost for valuable results
- Shows that what is obvious to the developer might not be obvious to the user
- Minimizes risk prior to public launch

Kelly Goto & Emily Cotler, 2002

Introduction - Help us improve our SPIN-database and you will have the possibility to win a prize worth 500 SEK.

The first version of the SPIN-database has now been in use for about one year. We have noticed an increase in our user groups, both on the CD-rom and the website. We, therefore, think it's time to collect the users experience so that we can improve SPIN for our users.

This survey has been developed by NetLife Research for NPG (Nordic Product register Group). The survey is anonymous, and takes from five to ten minutes to complete.

Good luck!

Version - What version of the SPIN-database have you used?

(Check one)

- ☐ CD-version
☐ Web-version
☐ Both versions

Usability -

How would you rate the usability of the SPIN database concerning the following:

(Check one alternative per row)

	Good	Above average	Average	Below average	Poor
Site structure	☐	☐	☐	☐	☐
Search possibilities	☐	☐	☐	☐	☐
Printing possibilities	☐	☐	☐	☐	☐
Help-functions	☐	☐	☐	☐	☐
Chemical identification possibilities	☐	☐	☐	☐	☐
Design	☐	☐	☐	☐	☐
Download time / response time	☐	☐	☐	☐	☐

Useful - Please respond to the following questions:

(Check one alternative per row)

	Totally agree	Agree	In the middle	Disagree	Totally disagree
The information that is provided on the SPIN-database is very useful to me	☐	☐	☐	☐	☐
The SPIN-database provide information that cannot be found elsewhere	☐	☐	☐	☐	☐
The SPIN-database provide me with sufficient information	☐	☐	☐	☐	☐

Excluded - Are you aware that some data may not have been included because of:

(Check one alternative per row)

	Yes	No
1. Confidentiality	☐	☐
2. Different registration rules for data registration in the Nordic countries	☐	☐

Differences - What are your opinions on the differences between the web-version and the CD-version of the SPIN database?

(Type text)

Ordering - Please answer the following question:

(Check one alternative per row)

	Easy	Somewhat easy	Neither easy nor difficult	Somewhat difficult	Difficult
How would you describe the ordering-process of the SPIN CD-ROM?	☐	☐	☐	☐	☐

differently - Can the ordering-process be improved?

If yes, how?

(Type text)

Newfeatures - If new features should be implemented in SPIN how would you rank them in importance (1 = most important, 8 = least important):

(Check all that apply)

- ☐ Frequently asked questions(FAQ)
- ☐ New parameters
- ☐ New search options
- ☐ Download options
- ☐ Synonyms
- ☐ More details on use categories and industry uses
- ☐ Annual trends (on screen)
- ☐ Information about chemical concentrations

Otherdatabases - What kind of links to other databases are relevant or needed in your work with the SPIN-database?

If you know any, please give us a keyword or name of the database below

If you don't, move on the the next question

(Type text)

KnowErrors - If you have identified any errors in the SPIN-database please specify here:

(Check all that apply)

- ☐ Don't know any errors
- ☐ Errors in data-material (ex. Wrong formula). Please specify:
- ☐ Errors in functions (ex. Button that does not work). Please specify:

Profession - What is your profession? Select the most suitable alternative.

(Check one)

- ☐ Government
- ☐ Private enterprise
- ☐ Trade organizations
- ☐ Consulting firm
- ☐ Research institute/University
- ☐ Non-profit organizations
- ☐ Other, please specify:

Sections - How do you use the information selected from SPIN?

(Check one)

- ☐ Chemical safety work
- ☐ Statistics
- ☐ Supervision
- ☐ Follow-up
- ☐ Marketing
- ☐ Research
- ☐ Substance Flow Analysis or Material Flow Analysis
- ☐ Non-profit (idealistic) work
- ☐ Other, please specify:

Often - How often do you use the SPIN database?

(Check one)

- ☐ Less than one time per month
- ☐ One to five times per month
- ☐ More than five times per months

Positive - Please list three things you like about the SPIN database:

(Type text)

Dislike - Please list three things you dislike about the SPIN database:

(Type text)

Change - Is there anything you would like to change about the SPIN-database?

(Type text)

Pleased - How pleased are you with the SPIN-database? I am...

(Check one)

- ☐ Very pleased
- ☐ Pleased
- ☐ Neither pleased nor displeased
- ☐ Displeased
- ☐ Very displeased

Gender - Gender

(Check one)

- ☐ Male
- ☐ Female

Age - Age

(Check one)

- ☐ Below 30
- ☐ 30-40
- ☐ 40-50
- ☐ 50-60
- ☐ Over 60

InternetExperience - How long have you used the Internet?

(Check one)

- ☐ 0-1 year
- ☐ 1-3 years
- ☐ 4 years or more

InternetUse - How many hours do you use the Internet (not e-mail) every week?

(Check one)

- ☐ 0-1 hours
- ☐ 1-5 hours
- ☐ 6-20 hours
- ☐ > 20 hours

ThankYou - Thank you very much for your time and for your contribution to improve the SPIN database!

To participate in the lottery and get the chance to win a prize worth 500 SEK, we need an e-mail address so that we can get in touch with you.

Please write your e-mail address here: (the winner will be contacted by e-mail.)

(Type text)

PS - PS: We are constantly trying to improve the SPIN database. If you would like to contribute to help us improve the SPIN database in the future, please log in on the discussion forum ("Discussion and hints" in http://www.spin2000.net/spin.html)